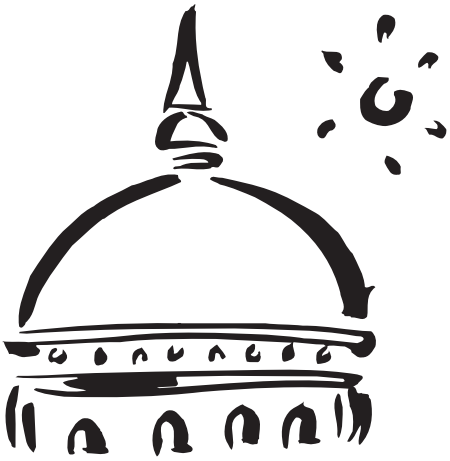
Vermont EMS Today

March 2001

From the Director

It's a Privilege…Or is it?



When is information about a patient that is gathered by an EMS provider considered "privileged," and thus protected from forced disclosure on the witness stand?

Under Section 1612(a) of Title 12, Vermont Statutes Annotated (VSA), information acquired in attending a patient in a professional capacity, and which was necessary to enable the provider to act in that capacity, is privileged. A provider must not disclose such information unless the patient waives the privilege or unless the privilege is waived by an express provision of law. Elaborating on the patient privilege, Vermont Rules of Evidence 503(a)(2) defines "physician" as "a person authorized to practice medicine in any state or nation, or reasonably believed by the patient so to be." Another subsection of this rule, (a)(6), specifies that a communication is "confidential" if "not intended to be disclosed to third persons, except persons present to further the interest of the patient in the consultation, examination, or interview; persons reasonably necessary for the transmission of the communication; or persons who are participating in diagnosis and treatment under the direction of a physician, dentist, nurse or mental health professional, including members of the patient's family or other participants in joint or group counseling sessions." According to the Reporter's Notes, "this evidentiary rule seeks to further the basic policy of encouraging communications intended to be confidential," and the rule should thus be interpreted to protect confidentiality.

This evidentiary rule seeks to further the basic policy of encouraging communications intended to be confidential.

The Vermont Supreme Court has not decided whether the patient privilege applies to EMTs, but the Court's 1993 decision in State v. Joshua A. Tatro implied that the privilege would apply if other statutory and rule criteria were met. In this context, it is important to remember that 24 VSA Section 2651 defines "advanced emergency medical treatment" as treatment carried out "under the supervision of a physician within a system of medical control approved by the department of health." Essentially, EMTs act on behalf of physicians (or even "as physicians") in providing such treatment.

A 1996 ruling in the Washington District Court, In re WF-BTPD Inquest, specifically examined the matter of whether or not communications between patients and EMTs are privileged. In that case, presiding Judge David T. Suntag ruled that the EMTs involved would be given the opportunity to show that the

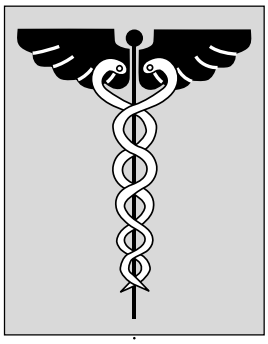
CONTINUED ON PAGE 3

Inside

From The Medical Advisor

The Lazarus Phenomenon

During the week of January 21, 2001, the *Burlington Free Press* had an article about an unfortunate EMS call. The story was about an out-of-state EMS service having responded to a call where there was no transport and the patient was sent to a local funeral home. A short while later, an employee of the funeral home found that the patient wasn't quite dead. This resulted in a second EMS response with the patient being transported to an area hospital. In medicine, this is sometimes referred to as a "Lazarus Phenomenon."



About one year ago, I was speaking to the medical director of a large state. He indicated that his system had investigated three "Lazarus" cases in that year! It seems that in three instances, patients had been sent to the morgue only to make a full or partial recovery there. What an embarrassment!

These cases remind us how important it is that we do our jobs correctly, especially in a national climate in which the American Heart Association, as I described in the last newsletter, is strongly pointing out that end-of-life preferences must be honored and that patients with failed resuscitations in the field need not be transported to the hospital.

With some frequency, I encounter colleagues in EMS who feel that they are fully and independently capable of determining when a patient is dead and does not need to be transported to the hospital. As many of us reading this would agree, it isn't always quite that easy to determine death and the embarrassment of a Lazarus case lingers for a long time.

As many of us reading this would agree, it isn't always quite that easy to determine death…

Our statewide protocols allow responders to not initiate a resuscitation when there is decomposition, incineration, rigor mortis, or decapitation. The "dead on scene" protocol indicates in section C of the General Considerations, "If there is any question about whether a resuscitation should be initiated, contact on-line medical direction." And, section B of the Treatment portion of the protocol says, "in cases where the EMS personnel believe the patient to be nonsalvageable but one of the above indications is not present, contact on-line medical direction for guidance."

It is vitally important that we obtain a good history concerning the patient and the circumstances leading to an EMS response. We need to do a good examination of the patient including extended pulse checks and listening with a stethoscope for cardiac activity. In some systems, a cardiac monitor may be employed to determine cardiac electrical activity, but I do not advocate for this.

We need to listen for about one minute to see whether there is any respiratory effort. We need to listen for about the same amount of time to see if there are any heart tones. A cardiac monitor might show "blippy blippies," but we all know that this need not have anything to do with whether there is perfusion and realistically may have nothing to do with survivability. (Think of a very young person who is decapitated and shortly thereafter, a cardiac monitor shows the young heart with electrical activity.)

Where there may be a crime scene, EMS must determine, sometimes in conjunction with Medical Direction, the viability of the patient and work to preserve the physical evidence that might be affected during a resuscitation. Occasionally, EMS providers might be kept from the patient precisely to preserve the scene. Those who prevent our assessment risk the allegation that a resuscitation might have altered the outcome, or worse, a Lazarus event might unfold.

It is hoped that our system can appropriately meet the needs of our patients, their families, the law and the providers while adhering to national guidance and practices. Tarry a few minutes, my friend, as you consider the death of the patient. A few minutes well spent and properly documented will allow for the best outcomes in EMS. While the Biblical account of Lazarus being raised from the dead had a positive outcome, I can assure you that the "Lazarus Phenomenon" in EMS has many undesirable outcomes and we do best to avoid it.

—Wayne J. A. Misslebeck, M.D.,
State Medical Advisor

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is published as a service for Vermont's emergency medical providers. Suggestions, comments and news items are always welcome. Write or call Leo J. Grenon, Vermont Dept. of Health, 108 Cherry Street, Box 70, Burlington, VT 05402. (802) 863-7310 or 1-800-244-0911 (in Vermont only). Email: VTEMS@VDH.STATE.VT.US

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From the Director—

It's a Privilege…Or is it?

CONTINUED FROM PAGE 1

privilege applied, on a question by question basis. Judge Suntag thus suggested that the privilege would apply involving certain information sharing.

Lacking clear appellate court guidance, how does an EMS provider know where the line should be drawn in terms of releasing or not releasing information? My first advice is that all services need to have clear internal policy about the release of information. Usually, requests should go through a single senior official of the squad. All requests and releases should be documented. My second piece of advice is that this is an area where you may periodically need legal counsel to help sort out what is or is not privileged. If you receive a subpoena to produce information or make a statement about a particular patient, you should have this reviewed carefully by an attorney representing your organization. We would be glad to provide you and your attorney with information about relevant laws and decisions we know about.

The documentation of an EMS incident is a complex matter. Typically, you will gather and record a variety of information, some of which may be privileged and some of which is probably not. If you are uncertain about when to release or not release a specific piece of information, be conservative and seek outside legal guidance.

— Dan Manz, State Director, EMS

MARK YOUR CALENDAR!

2002 EMS Conference

April 6 & 7

Preconference
April 4 & 5

Calling All Squads for Special Olympics

In June of each year 450 law enforcement officers from around the state carry the Special Olympic torch from the four corners of the state to the Vermont Special Olympics summer games. The torch run is always preceeded by a variety of fund raising events that include the Penguin Plunge, T-shirt sales, Plane Pull, 6-Hour Spin Marathon and a new event in 2000 called the National Life Mountain Challenge. June 9, 2001 is our tentative date for the event.

On behalf of the Vermont Torch Run Committee, I am inviting you, the Vermont E.M.S. to join law enforcement for the Mountain Challenge 2001.

The Mountain Challenge is a challenge indeed. The fund raising run starts in Hancock, Vermont at the intersection of Routes 100 and 125, proceeds up to Middlebury Gap on Route 125 and temporarily finishes in East Middlebury some sixteen (16) miles from Hancock. Runners are then bused from East Middlebury to Middlebury College for a barbecue with the Special Athletes before completing the final leg of a one mile run through the streets of Middlebury and into the Middlebury College football stadium with the Torch of Hope and the Special Olympic torch lighting ceremony.

The Mountain Challenge is an awesome experience. The route climbs approximately 1,500 feet in the first six miles then descends 1,700 feet along the final nine (9) miles. The views and experiences are not soon forgotten. Cognizant of the fact that the event is supposed to be enjoyable, the run is not limited to individuals. Teams, with a team member on the course at all times, are welcomed and encouraged to participate. I am sure that all departments want to be represented either on a department team or smaller departments should consider banding together to form a united team.

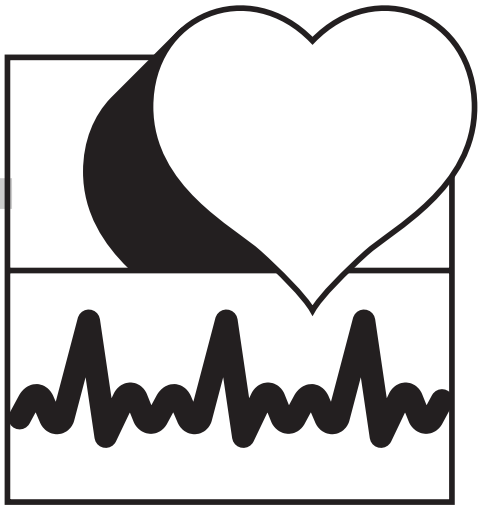
If you or any of the E.M.S. providers who receive this invitation have a question, please e-mail me at *jmartin@montpelier-vt.org* or call me at (802) 223-3445, ext. 14, fax (802) 223-9518.

Thank you and I hope to see you at the Mountain Challenge in June 2001.

— John C. Martin, Police Sergeant, City of Montpelier

Public Access Defibrillation: The Ghost and the Machine

PART 2



When part one of this series appeared in December 1998, public access defibrillation (PAD) was an untested concept being promoted by a number of national organizations. Little has changed since then.

No trials have appeared in the medical literature on the use of automated external defibrillators (AEDs) by laypersons. Two new reports have described successful cases of AED use by rescuers who are not healthcare workers, but who do have an employment-related responsibility to respond to emergencies. A number of case reports, small series, abstracts, preliminary reports and a system for categorizing responders have also appeared.

As a result of a 1997 conference sponsored by the American Heart Association (AHA), the first system for classifying PAD responders was instituted.[1] The American Heart Association revised these designations in 2000 with publication of "Guidelines 2000 for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care."[2] Level 1, nontraditional responders, are people other than health care providers who have a job-related duty to respond to emergencies, e.g., firefighters, police officers, ski patrollers, airline flight attendants, security personnel and lifeguards. Level 2, targeted responders, are citizens and other laypersons who have received AED training and who volunteer to respond to cardiac emergencies, typically at work, e.g., secretaries and sales staff. Level 3, responders to persons at high risk, are family members and friends likely to be with a person at high risk for a cardiac emergency. The 1997 conference designated a level 4 to refer to laypersons with little or no training who witness an event, have access to an AED and attempt to use it. The 2000 Guidelines omit mention of this group.

This installment in the series on PAD will focus on an examination of two new trials of Level 1 responders, case reports, preliminary data from an ongoing study and the design of the Public Access Defibrillation Phase I (PADI) trial.

A future article will discuss cost-effectiveness studies and the issues of training and implementation.

New Studies of Expanded Access Defibrillation

American Airlines began training flight attendants and placing AEDs on aircraft in 1997. They reported recently[3] on their experience with 200 applications of the device between July 1, 1997 and July 15, 1999. Slightly more than half of the patients (101) were conscious, so the AED was used only as an electrocardiograph (ECG) monitor in these cases, usually because a physician was on board the craft. Of the 99 unconscious patients, 36 were found in cardiac arrest or arrested after placement of the AED. Fourteen were documented to be in ventricular fibrillation (VF). All 14 were shocked except for one with a terminal illness whose family requested the shock be withheld. Two others who were shocked were likely in VF, but the memory card with the ECG records for these patients either malfunctioned or was inadvertently erased. Of the 15 patients who received shocks, an unknown number were admitted and six survived to be discharged from the hospital in good neurological condition.

Although the AED was "used" 200 times, there were only 36 patients in cardiac arrest,

Eleven of the shocked patients were on aircraft and five were in an airport terminal. All of the survivors received one or more shocks from AEDs aboard aircraft.

Because there is no universally accepted format for researchers to use to report their results, it is difficult to compare these numbers to other investigators' data. The Utstein guidelines,[4] developed by a consensus group in 1991, provide a framework for reporting results of prehospital cardiac arrest resuscitation efforts by giving uniform definitions and delineating what data to report. This has resulted in significantly more valid comparisons of cardiac arrest save rates among EMS systems. Such a template does not yet exist for PAD.

The paper mentions that 24,000 flight attendants received AED training, but does not specifically say that the flight attendants delivered all the shocks. The airline's protocol calls for flight attendants to solicit "the assistance of medical personnel"[3] when faced with a patient in cardiac arrest, but also says "the flight attendants follow the protocol independently of such advice."[3]

Although the AED was "used" 200 times, there were only 36 patients in cardiac arrest, with 15 shocked because they were in VF. Since there were six survivors, this is a survival rate (defined as hospital discharge in good neurological condition) of 40 percent for VF. Because the numbers are so small, the 95 percent confidence interval for the survival rate is very wide: 15 percent to 65 percent. This means under these

CONTINUED ON PAGE 5

conditions we can be 95 percent confident the true survival rate is somewhere between 15 percent and 65 percent. No mention is made of how many of the arrests were witnessed.

Since all of the survivors were passengers on aircraft, it is reasonable to conclude that virtually none of these patients would have survived without an AED on the aircraft.

Another report in the same issue of the *New England Journal of Medicine* described the experience of security officers who provided rapid defibrillation in 32 casinos in Nevada and Mississippi.[5] Between March 1, 1997 and October 12, 1999, security officers treated 105 patients whose initial cardiac rhythm was VF. Because a security officer is typically visible from any point in the public area of the casino and because security cameras scan the public areas, a collapse on the part of a customer is typically noticed very quickly, if not immediately. This was reflected in the very short response times: the mean response time of a security officer with an AED was 3.5 minutes. Thirty-five of the 90 patients with witnessed VF received their first defibrillatory shocks within three minutes of collapse.

Fifty-six of the 105 patients (53%) survived to hospital discharge. Because there were so many patients in this study, the 95 percent confidence interval is relatively narrow: 43 percent to 62 percent. No information is provided on the neurological condition of the patients at discharge. This result compares favorably to a similar study by a different group of authors[6] who found a 29 percent survival rate among 205 witnessed arrest patients in Las Vegas casinos when security officers started CPR but did not have AEDs. In the latter report, the authors did not describe how many of the survivors came from the 187 who had an initial rhythm of VF.

Another report on this subject[7] bears mention because its title may lead to misunderstandings. "A Statewide Early Defibrillation Initiative Including Laypersons and Outcome Reporting" describes the results of almost four years of AED use in California by basic emergency medical technicians and several categories of level 1 responders: firefighters, peace officers and public lifeguards. There were 191 survivors (neurological status unknown) out of 1009 patients (19%) in VF after a witnessed arrest. Although the paper describes how the state legalized layperson defibrillation, it contains no outcomes from layperson use of AEDs.

Preliminary Data and Case Reports

Suffolk County, New York, with a population of approximately 1.4 million people, covers 911 square miles of the eastern end of Long Island. At the Emergency Cardiac Care Update conference in 1998, preliminary information was presented about the early defibrillation program of the Suffolk County Police Department.[8] Most of the officers are certified at the emergency medical technician-defibrillation (EMT-D) level. Cruisers carry basic trauma supplies and oxygen. Police officers respond frequently (more than 46,000 times a year) in the county to provide medical assistance on EMS calls. Average ambulance response time is greater than ten minutes.

During eight months in 1997 and 1998, officers applied an AED 161 times. Sixty-eight (42%) of the patients were in VF. Eighteen (26%) of the defibrillated patients regained a spontaneous pulse. Three (4%) were discharged alive from the hospital. Their neurological condition was unknown since the information presented at the conference was preliminary and has not been published in a medical journal. It is not known whether this survival rate is different from the survival rate when EMS defibrillated.

Suffolk County's results are disappointing. Despite the fact that most police officers had prior EMS training (many at the EMT-Defibrillation level) and most of the county is densely populated, only four percent of patients in witnessed VF were discharged alive from the hospital. The data are only preliminary, so we must be cautious about drawing conclusions. Perhaps they will publish their final results sometime in the near future.

In 1987, a case report from Long Island Jewish Medical Center described how an unspecified number of family members, security officers, country club managers and police marina employees received training in CPR and use of an AED.[9] Four of the participants were family members of an unknown number of survivors of previous cardiac arrest. The paper does not describe how other participants were selected. Five patients experienced a cardiac arrest during an unspecified period. All were in VF. It is unclear whether participants applied the AED only to the high risk patients or whether they also applied it to others in arrest. The authors report two patients survived, although they do not describe whether this meant return of a spontaneous pulse, admission to a hospital or discharge from a hospital. No description appears of the patients' neurological conditions.

This report is not a study. It is a series of case reports from which we can conclude very little. Because there were so few patients and because so much important information is missing from the report (e.g., inclusion and exclusion criteria, definition of survival, neurological status at discharge), we are left with very little evidence upon which to draw a conclusion.

CONTINUED ON PAGE 7

EMS Data Collection Project Update

Do you know how many calls your service responded to last year? Most EMS providers can answer this question without too much trouble. Here's another question: How many of your patients last year were over 65 years old? Again, not too difficult to answer, although some might have to shuffle through a few boxes of trip sheets to find the answer. Now here's the hardest question of all. How many times last year did an ambulance in Vermont respond to a pediatric patient complaining of respiratory distress? The answer: we just don't know!

Statewide EMS data are not accessible because we currently have no system for collecting and reporting this data. Fortunately, efforts are already underway to build just such a database.

The following few paragraphs should help answer some frequently asked questions regarding this data project.

Why should we collect EMS data?

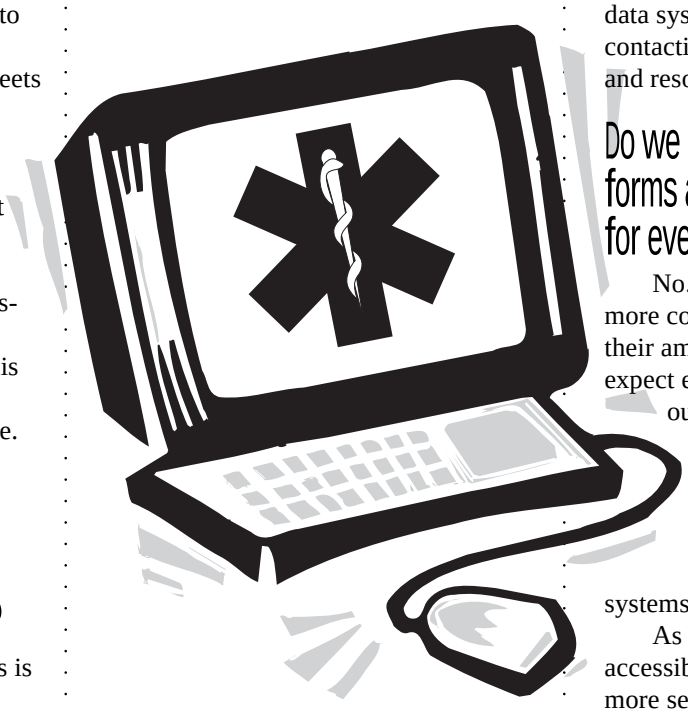
One of the best ways to save lives is to prevent injury or illness in the first place. Once we have access to statewide EMS data, we will be better able to understand how and why Vermonters become injured or ill. This information will provide a big boost to injury prevention and preventative health care professionals. By submitting data to the EMS database, we will be indirectly saving lives by supporting injury and illness prevention efforts.

EMS agencies will be able to use the database to fine-tune their operations. Perhaps your service excels in some areas but could use additional training in others. This data will help you to reveal your strengths and challenges.

For some agencies, this data will be helpful for funding requests. Objective EMS data goes a long way toward showing a need for additional funding or equipment.

Who will help develop this database?

On January 25th, The Vermont EMS Prehospital Data Collection Task Force held its first meeting. This task force will be responsible for working through the challenges of our data project. The members of the task force include EMS providers, injury surveillance/prevention personnel, computer information services personnel and Vermont EMS office staff. Many of these people are familiar faces in Vermont's EMS community.



The broad range of expertise and experience offered by the task force members will help us ensure success with this project. One of our top priorities is to design a system that will be user-friendly and useful to everyone involved.

When will the database be up and running?

It is still too early to say when the database will be ready. We have many details to work out and challenges to overcome before our system will be complete. It is likely that we will pilot the database in several regions before we implement it statewide. At this time, it is reasonable to estimate that the system will be running within two years. In the meantime, services that plan to implement their own internal data systems might benefit from contacting me for more information and resources.

Do we need to throw out our paper forms and buy expensive laptops for every ambulance?

No. Although some services find it more convenient to use computers in their ambulances, we certainly don't expect every ambulance service to run out and purchase computer hardware tomorrow. We will do our best to build a system that works for every EMS agency, including those who do not currently use computerized systems.

As technology becomes more accessible, I believe that more and more services will come to appreciate the conveniences of using a "paperless" data system. Maybe someday we'll look back and laugh about how we used to hand-write those trip sheets!

How can I learn more?

This project has tremendous potential for improving our EMS system and making our communities safer. Your input and support are critical to the success of our database. If you have any questions, concerns or suggestions, please feel free to call or visit me at the EMS office. Information and occasional updates on this project will be posted on the Vermont EMS webpage this spring.

— William Clark
Pediatric EMS Coordinator

Public Access Defibrillation

CONTINUED FROM PAGE 5

Public Access Defibrillation Phase I (PADI) Trial

A bright spot on the horizon is the Public Access Defibrillation Phase I (PADI) Trial.1 This is the first trial to evaluate Level 2 responders, i.e., citizens and other laypersons who have undergone AED training and who volunteer to respond to a cardiac emergency. The unit of study is areas of limited size with more than 250 persons aged 50 years or older where a trained layperson can respond in three minutes or less. Malls, gated communities and airports are examples of such areas. Pairs of these units will have one unit randomized to responders with CPR and AED training and the other to responders with just CPR training. The main outcome measure will be neurologically intact survival to discharge from a hospital. The study began enrolling communities recently and is expected to take several years. Because this is a multi-center, randomized controlled trial, many in the health care community hope it will answer some of the questions that PAD raises: Where should AEDs be placed? Will laypeople respond quickly and act appropriately or will they delay other care, e.g., by not calling 911? Most important of all, will this make a difference in patient outcome?

Comments

Trying to compare the results of the few studies on PAD that exist is challenging. There is no standardization of definitions or even agreement on which data elements to collect. The sorry state of the evidence has led some[10] to call public access defibrillation "a grade C recommendation based on level 4 evidence," a low level of support for an intervention according to an evidence-based system for evaluation of changes in care.

The two studies on airline use of AEDs described in this series had some similar and some surprisingly dissimilar results. Qantas found a survival rate for witnessed VF of 26 percent and American had a 40 percent survival rate, two proportions that are not significantly different in the statistical sense. Both airlines used the AED infrequently for cardiac arrest, but had several survivors.

Qantas, though, found it much easier to recognize and resuscitate patients in witnessed VF who were in the airline terminal rather than in the aircraft. American found the opposite: there were no survivors of arrest in a terminal. With such small numbers, it is difficult to determine why such a difference occurred. Perhaps Qantas has a higher proportion of longer trans-Pacific routes than American. This might make it more difficult to differentiate passengers who are sleeping from those who are unconscious and pulseless. Or perhaps those long trans-Pacific flights more often lead to what has been dubbed economy class syndrome.[11] There has been speculation that the conditions present on a long flight, e.g., prolonged sitting in a cramped airplane and compression of the popliteal vein on the edge of the seat, may promote venous thrombosis, setting the patient up for increased risk of a clot breaking off and going to the lung (pulmonary embolus) after getting off the plane. Without more information, such speculation is just that: conjecture without supporting evidence.

Police officers with prior EMS training who function in a system with strong medical direction and a commitment to quality can increase survival from cardiac arrest significantly in a community such as Rochester, Minnesota.[12] But in a system where some of those attributes may not be present, the addition of AED use to police responsibilities does not necessarily result in any change for the better.[8, 13]

In casinos, where there are healthy, mobile, affluent customers and a surveillance system designed to monitor all public activities, trained and equipped security officers can increase survival significantly by using AEDs.

What all of these Level 1 non-police studies have in common is that they manage patients who experience cardiac arrest in public places. But approximately 75 percent of cardiac arrests occur in the home. The success of these out-of-home programs may lead to expectations of results that cannot be achieved by other programs that use responders with less training or experience with emergencies. This may be especially true when the patients are at home where the arrest may not be witnessed, notification may be delayed and the patient may not be healthy enough to travel or go to a casino.

The PADI trial may answer questions about Level 2 responder effectiveness in a few years. The only Level 3 study published to date[14] did not find any improvement in survival when family members of high risk cardiac patients learned how to defibrillate. Perhaps with improvements in the technology of AEDs, this will change. Such a study has yet to be published.

Reports in the last few years have left many questions about PAD unanswered. Politics, fear and advertising seem to be more important driving forces than science and public policy when it comes to an emotionally charged subject such as this. To implement a system that will do more than enrich the coffers of AED manufacturers will require both data that can be used to make valid comparisons among studies and a willingness to use a systematic approach to improving public health.

In a future installment of this series, we will look at cost-effectiveness studies, some speculation about the potential value of PAD and issues of training and implementation.

— Mike O'Keefe
State EMS Training Coordinator

EMS Instructor Course

Joanne Lebrun and Greg Thweatt began another EMS Instructor Course on January 27 at the University of Vermont in Burlington. Sixteen students enrolled in the course, representing 10 of Vermont's 13 EMS districts (three districts did not send any students). The course was scheduled to end March 4, 2001.

On-Line Journals

The American Heart Association's *Currents* is now available free of charge on the worldwide web at *www.currentsonline.com.* This quarterly publication is intended to be a forum where people can "exchange information about important ideas, developments and trends in emergency cardiovascular care." The paper version of *Currents* has been available free of charge recently, but soon subscribers who wish to continue to receive the paper version will have to pay for it. A web site option is available for subscribers to receive email reminders when a new issue is on-line.

EMT-Intermediate Curriculum

Progress continues on the work of adapting the new national standard EMT-Intermediate curriculum for use in Vermont. A meeting with district medical advisors and a follow-up survey have clarified significantly many of the interventions district medical advisors feel are medically sound and should be included. After the list of interventions is complete, EMS Office staff will meet with district and other officials to consider how much of the medically acceptable material is feasible and reasonable in Vermont.

In August, each district medical advisor received a survey asking whether each of the interventions in the new national curriculum should be in the next Vermont curriculum. The new curriculum, as written, includes many more interventions and requires significantly more time to complete than Vermont's current course (300-400 hours compared to the present 83 hours). There is also a need for much more clinical time and supervised field experience. Responses to the survey varied significantly, ranging from maintaining the status quo to outright adoption of the whole curriculum, with most respondents giving answers somewhere in between.

On January 9, 2001, EMS Office staff met by interactive television with district medical advisors to discuss what the EMT-I of the future should look like. The medical advisors present moved quickly to consensus on most of the interventions. The EMS Office then sent out a summary of the discussion and a follow-up survey to further refine the list of interventions.

Responses to the second survey are still coming in, but district medical advisors seem to be in agreement that certain interventions should be in the new course, including peripheral intravenous therapy, phlebotomy, 50% dextrose, 1:1000 epinephrine, naloxone (all of which are currently included), the Esophageal Tracheal Combitube instead of the esophageal obturator airway, pulse oximetry, blood glucose measurement, sublingual nitroglycerin, aspirin and inhaled beta agonist bronchodilators. They also generally agreed that certain interventions should not be in the new course, including intraosseous infusion, pediatric endotracheal intubation, needle chest decompression, automated transport ventilators, nasogastric and orogastric tubes, diazepam, furosemide, adenosine and morphine sulfate.

Several interventions require further discussion to see if they should be in the new curriculum. These include endotracheal intubation of adults, glucagon, thiamine, ECG rhythm interpretation, intravenous cardiac medications and transcutaneous pacing. The EMS Office anticipates one more meeting with district medical advisors to reach consensus on these matters.

District and other officials will then have an opportunity to participate in the process by considering how much of the medically acceptable material is feasible and reasonable in Vermont. If only the agreed upon material is included, the length of the EMT-I course will increase significantly beyond the current course length, though not to 300 or 400 hours. If even more interventions are included (from the list of items in need of further discussion), the course will have to be even longer to allow students to learn the necessary knowledge and skills.

EMS will continue to keep providers informed of developments in this process.

—Mike O'Keefe
State EMS Training Coordinator

Making Exceptional the Rule

Last fall, the EMS office sent out surveys with the license renewal applications. Most agencies reported that the service they received from the state was appropriate and satisfactory. A few were less than satisfied, but we hope to change that in time for the next survey.

It turns out "appropriate, professional service" was the highest score the survey offered. It made me wonder how we would have stacked up if agencies could have chosen "outstanding," "anticipated and met our needs" or "truly exceptional." In fact, while being appropriate and professional is definitely a good thing, the mission of the Vermont EMS office from this point forward is to exceed your expectations.

Dan Manz hired me in November to supervise the day-to-day operations of the Vermont EMS office and to see if anything could be done better. One of the first things I discovered was that a very small, talented, hard working staff was doing a large amount of work.

The EMS office, as you probably know, is comprised of only seven individuals managing a statewide system with nearly 3,000 emergency care providers. Every year, these seven people inspect every ambulance in Vermont, proctor more than 30 state exams, process more than 1,500 certifications (which involves much, much more than printing cards), review and process about 170 service licenses, and field thousands of calls and e-mails from folks seeking the definitive answers to their EMS questions. All of these numbers increase every year.

As I began to study the systems in place, I was amazed at how much time and how many steps are required to carry out many of the functions. For instance, after an EMT-Basic exam, it takes one person a couple

of uninterrupted hours to prepare the exams to go to the National Registry for scoring. Technically, there are only two administrative staffers, but there is a huge amount of paperwork involved in regulating, testing, certifying and licensing providers and their agencies. As a result, everyone in the office from the director on down pitches in with the paper flow and other day-to-day tasks. This means they have less time to work on projects that will keep Vermont on the cutting edge of emergency medical services. Under this scenario, neither the administrative process nor the program initiatives are served as well as they could be.

The mission of the Vermont EMS office from this point forward is to exceed your expectations.

My primary mission is to streamline the administrative aspects of the office so that Leo Grenon, Donna Jacob and I can take care of the day-to-day operations ourselves while the programs staff (Dan Manz, Mike O'Keefe, Bill Clark and the soon to be hired Operations Coordinator) can devote all of their time to making our programs, resources and initiatives among the best in the country.

Some changes in our operations have already been implemented. Those of you who have taken a re-certification exam or the EMT-Intermediate test in the past couple of months may have received your results more quickly than in past years. (Sorry, EMT-B and First Responder candidates: National Registry exam timetables are out of our hands!) Most of the changes that will happen over the next few months will not be all that visible to you. Nonetheless, be assured that your EMS office is dedicated to improving the way it operates.

It is a tremendous honor and privilege to be a member of the EMS staff, and I look forward to working with all of you. If you have any questions or comments about making Exceptional the rule at Vermont EMS, feel free to contact me via e-mail at *rwalker@vdh.state.vt.us* or call (802) 863-7274, or toll free at (800) 244-0911.

— Ray Walker
Programs Administrator

What's Spreading in Infectious Disease

New Standards for Reducing Sharps Injuries

A new federal law has the potential to decrease accidental sharps injuries in health care settings. The Needlestick Safety and Prevention Act directed the Occupational Safety and Health Administration (OSHA) to amend the bloodborne pathogens standard in several ways that require employers to reduce the risk of exposure from sharps. The bloodborne pathogens standard has been successful in reducing the frequency of exposures for health care workers, but this change is expected to cut that number even further.

On November 6, 2000, President Clinton signed the Needlestick Safety and Prevention Act. Congress passed this law last fall because of the continued concern among health care workers regarding exposure to disease from sharps and also because of the many improvements in products designed to decrease the risk of such injury. Although the number of sharps injuries has decreased since the 1991 enactment of the bloodborne pathogens standard (29 CFR 1910.1030), non-hospital healthcare workers still experience more than 200,000 percutaneous injuries involving contaminated sharps every year. Engineering controls (products and devices intended to prevent injury) have improved significantly since then, but the 1991 standard made no specific mention of them.

The law requires employers to: solicit ideas and suggestions from employees on selection and evaluation of new devices and procedures; update their exposure control plans to reflect new technology designed to decrease exposures; and in certain cases maintain a log of percutaneous injuries from contaminated sharps.

The revised standard requires employers to "solicit input from non-managerial employees responsible for direct patient care who are potentially exposed to injuries from contaminated sharps in the identification, evaluation, and selection of effective engineering and work practice controls" and to "document the solicitation in the exposure control plan." No specific method for doing this is prescribed, so employers have the flexibility to use a method appropriate to the particular workplace. This requirement can actually work to the employer's advantage since employees involved in selecting devices and revising procedures are more likely to support the end result.

The annual review and update of the organization's exposure control plan must now "(A) reflect changes in technology that eliminate or reduce exposure to bloodborne pathogens; and (B) document annually consideration and implementation of appropriate commercially available and effective safer medical devices designed to eliminate or minimize occupational exposure." These revised requirements clearly indicate that employers must adopt safer medical devices "whose use, based on reasonable judgment in individual cases, will not jeopardize patient or employee safety or be medically contraindicated."

These revised requirements clearly indicate that employers must adopt safer medical devices "whose use, based on reasonable judgment in individual cases, will not jeopardize patient or employee safety or be medically contraindicated."

OSHA calls these safer medical devices "sharps with engineered sharps protections" and defines them as "a nonneedle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident." This includes intravenous medication systems that use a blunt cannula or a needle with a protective covering (so-called needleless systems). Sharps with shielded or retracting needles in intravenous catheters are also considered safer medical devices.

CONTINUED ON PAGE 11

Although OSHA had not amended the bloodborne pathogen standard before now, the agency did issue a compliance directive on November 5, 1999 that advises OSHA compliance officers to take advances in medical technology into account when inspecting work sites. In other words, even though the change in 1910.1030 officially takes effect April 18, 2001, OSHA is already enforcing the requirement for needleless systems and similar devices and has been for more than a year.

Employers who are required to maintain a log of occupational injuries and illnesses under 29 CFR 1904 (OSHA's recordkeeping rule) must also maintain a sharps injury log to more easily determine high risk areas. Certain pieces of information must be included in the log, but "in a manner that protects the privacy of the injured employee."

The complete text of the final rule is in the January 18, 2001 issue of the *Federal Register.* It is available at *www.access.gpo.gov/su_docs/aces/aces140.html.*

On-Line Resources

A free subscription to the electronic version of *Morbidity and Mortality Weekly Reports* (MMWR) is available from the Centers for Disease Control and Prevention (CDC) at *www.cdc.gov/mmwr. MMWR* contains "data on specific diseases as reported by state and territorial health departments and reports on infectious and chronic diseases, environmental hazards, natural or human-generated disasters, occupational diseases and injuries, and intentional and unintentional injuries. Also included are reports on topics of international interest and notices of events of interest to the public health community."

This is just one example of the many resources available at this superb site.

OSHA Clarifies Hospital Responsibilities for Soiled EMS Equipment

Who is responsible for cleaning used, contaminated EMS equipment left with the patient at a hospital or other healthcare facility? This is a question that until recently had no clear answer. Some hospitals felt it was not their responsibility and simply placed the dirty equipment in the same place as the service's backboards and other EMS equipment. Other hospitals devoted the resources to cleaning the items before putting them in an equipment retrieval area.

On June 28, 2000, Katherine West, RN, CIC, sent a letter asking this question to the Director of Compliance Programs for the Occupational Safety and Health Administration.

In a letter dated October 4, 2000, Richard Fairfax, Director of Compliance Programs for OSHA, responded, "OSHA would regard a hospital as having met its obligations with respect to its own employees either by cleaning and decontaminating the equipment in accordance with (d)(4)(i) of the [bloodborne pathogen] standard, or alternatively, by preventing employee contact with such equipment by placing it in durable, leakproof, and labeled or color-coded containers and handling it in a manner similar to that prescribed for contaminated laundry and contaminated laboratory equipment. The first responders' employer must then ensure that its employees take proper precautions when retrieving and decontaminating the equipment. The Centers for Disease Control and Prevention (CDC) indicate, in their *Infection Control Practices,* that communication between two parties with regard to handling and decontamination of supplies and materials is of the utmost importance."

The letter from OSHA does not alter the requirements of the bloodborne pathogen standard, but it does make clear that putting contaminated EMS equipment in the ambulance bay without being cleaned or contained is unacceptable.

— Mike O'Keefe
State EMS Training Coordinator

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Public Access Defibrillation

CONTINUED FROM PAGE 7

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